IN THE CLAIMS

Please amend the claims to be in the form as follows:

Claim 1 (currently amended): A method for applying proper interpolation for motion compensation in a video data stream, the method comprising the steps of:
determining a likely local nature of a reference frame data area in the video data stream; and applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area; and
evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation.

Claim 2 (original): The method of Claim 1, wherein the step of determining a likely local nature of a reference frame data area in the video data stream comprises utilizing a vertical component of a motion vector to attempt to determine a likely local nature of a reference frame data area in the vide data stream.

Claim 3 (cancelled)

Claim 4 (original): The method of Claim 3 further comprising the step of applying field-based interpolation to the video data stream if the video data stream was encoded using field motion compensation.

Claim 5 (currently amended): The method of Claim 3, wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reference frame data area starting from a pixel position, wherein the step of determining a likely local nature of a reference frame data area in the video data stream is unable to reliably determine that the likely local nature of the reference frame data area comprises a stationary area, and wherein the step of applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area comprises

applying frame-based interpolation to the reference frame data area.

Claim 6 (original): The method of Claim 3, wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reference frame data area starting from a non-pixel position, wherein the step of determining a likely local nature of a reference frame data area in the video data stream results in a determination that the likely local nature of the reference frame data area in the video data stream likely comprises a stationary area, and wherein the step of applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area comprises applying frame-based interpolation to the reference framed data area.

Claim 7 (currently amended): The method of Claim 3, wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reference frame data area starting from a pixel position, wherein the step of determining a likely local nature of a reference frame data area in the video data stream is ~~unable to reliably determine~~ that the likely local nature of the reference frame data area comprises a stationary area, and wherein the step of applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area comprises applying field-based interpolation to the reference frame data area.

Claim 8 (original): The method of Claim 1, wherein the step of determining a likely local nature of a reference frame data area in the video data stream results in a determination that the local nature of the reference frame data area in the video data stream likely comprises a stationary area, and wherein the step of applying proper interpolation to the reference from data area comprises applying frame-based interpolation to the reference frame data area.

Claim 9 (currently amended): The method of Claim 1, wherein the step of determining a likely local nature of a reference frame data area in the video data stream is ~~unable to reliably determine~~ that the local nature of the reference frame data area likely comprises a stationary area, and wherein the step of applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area comprises applying field-based interpolation to the reference frame data area.

Claim 10 (original): The method of Claim 1, wherein the step of determining a likely local nature of a reference frame data area in the video data stream comprises determining dynamically in real time a likely local nature of a reference frame data area in the video data stream.

Claim 11 (original): The method of Claim 1, wherein the step of applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area comprises applying dynamically in real time proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area.

Claim 12 (original): The method of Claim 1, wherein the method is for applying proper interpolation for reduced resolution motion compensation in the video data stream.

Claim 13 (original): A method for applying proper interpolation for reduced resolution motion compensation in a video data stream, the method comprising the steps of:

evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation;

applying field-based interpolation to the video data stream if the video data stream was encoded using field motion compensation;

utilizing a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream; and

applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame

motion compensation.

Claim 14 (currently amended): The method of Claim 13, wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reduced resolution reference frame data area starting from a pixel position, wherein the step of utilizing a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream is ~~unable to reliably determine~~ that the likely local nature of the reduced resolution reference frame data area comprises a stationary area, and wherein the step of applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation comprises applying frame-based interpolation to the reduced resolution reference frame data area.

Claim 15 (original): The method of Claim 13, wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reduced resolution reference frame data area starting from a non-pixel position, wherein the step of utilizing a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream results in a determination that the likely local nature of the reduced resolution reference frame data area in the video data stream likely comprises a stationary area, and wherein the step of applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation comprises applying frame-based interpolation to the reduced resolution reference frame data area.

Claim 16 (original): The method of Claim 13, wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reduced resolution reference frame data area staring from a pixel position, wherein the step of utilizing a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream is unable to reliably determine that the likely local nature of the reduced resolution reference frame data area comprises a stationary area, and wherein the step of applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation comprises applying field-based interpolation to the reduced resolution reference frame data area.

Claim 17 (original): The method of Claim 13, wherein the step of utilizing a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream results in a determination that the local nature of the reduced resolution reference frame data area in the video data stream likely comprises a stationary area, and wherein the step of applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation comprises applying frame-based interpolation to the reduced resolution referenced frame data area.

Claim 18 (currently amended): The method of Claim 13, wherein the step of utilizing a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream is ~~unable to reliably determine~~ that the local nature of the reduced resolution reference frame data area in the video data stream likely comprises a stationary area, and wherein the step of applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream

was encoded using frame motion compensation comprises applying field-based interpolation to the reduced resolution reference frame data area.

Claim 19 (original: The method of Claim 13, wherein the step of utilizing a vertical component of a motion vector to determine likely local nature of a reduced resolution reference frame data area in the video data stream comprises utilizing dynamically in real time a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream.

Claim 20 (original): The method of Claim 13, wherein the step of applying frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation comprises applying dynamically in real time frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation.

Claim 21 (currently amended): A decoding system for applying proper interpolation for motion compensation in a video data stream, wherein the decoding system comprises a motion compensation predictor for retrieving reference frame data areas through motion vectors, and wherein the motion compensation predictor is adapted to: determine a likely local nature of a reference frame data area in the video data stream and apply proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area, wherein the motion compensation predictor is adapted to utilize a vertical component of a motion vector to attempt to determine a likely local nature of a reference frame data area in the video data stream.

Claim 22 (cancelled)

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PAGE 8/19 * RCVD AT 10/7/2004 7:28:57 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:5853819983   * DURATION (mm-ss):06-54

Claim 23 (original): The decoding system of Claim 21, wherein the motion compensation predictor is adapted to evaluate the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation.

Claim 24 (original): The decoding system of Claim 23 wherein the motion compensation predictor is adapted to apply field-based interpolation to the video data stream if the video data stream was encoded using field motion compensation.

Claim 25 (currently amended): The decoding system of Claim 23, wherein the motion compensation predictor determines that the video data stream was encoded using frame motion compensation and that encoding determined for the motion compensation predicator to fetch the reference frame data area starting from a pixel position, wherein the motion compensation predictor is ~~unable to reliably determine~~ that the likely local nature of the reference frame data area comprises a stationary area, and wherein the motion compensation predictor applies frame-based interpolation to the reference frame data area.

Claim 26 (original): The decoding system of Claim 23, wherein the motion compensation predictor determines that the video data stream was encoded using frame motion compensation and that encoding determined for the motion compensation predictor to fetch the reference frame data area starting from a non-pixel position, wherein the motion compensation predictor determines that the likely local nature of the reference frame data area in the video data stream likely comprises a stationary area, and wherein the motion compensation predictor applies frame-based interpolation to the reference frame data area.

Claim 27 (currently amended): The decoding system of Claim 23, wherein the motion compensation predictor determines that the video data stream was encoded using frame motion compensation and that encoding determined for the motion compensation predictor to fetch the reference frame data area starting from a pixel position, wherein the motion compensation predictor is ~~unable to reliably determine~~ that the likely local nature of the reference frame data area comprises a stationary area, and wherein the motion compensation predictor applies field-based interpolation to the reference frame data area.

Claim 28 (original): The decoding system of Claim 21, wherein the motion compensation predictor determines that the local nature of the reference frame data area in the video data stream likely comprises a stationary area, and wherein the motion compensation predictor applies frame-based interpolation to the reference frame data area.

Claim 29 (currently amended): The decoding system of Claim 21, wherein the motion compensation predictor is ~~unable to reliably determine~~ that the local nature of the reference frame data area comprise a stationary area, and wherein the motion compensation predictor applies field-based interpolation to the reference frame data area.

Claim 30 (original): The decoding system of Claim 21, wherein the motion compensation predictor is adapted to dynamically in real time determine a likely local nature of a reference frame data area in the video data stream.

Claim 31 (original): The decoding system of Claim 21, wherein the motion compensation predictor is adapted to dynamically in real time apply proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data area.

Claim 32 (original): The decoding system of Claim 21, wherein the decoding system is for applying proper interpolation for reduced resolution motion compensation in the video data stream, and wherein the motion compensation predictor is for retrieving reduced resolution reference frame data areas through scaled down motion vectors.

Claim 33 (original): The decoding system of Claim 21, wherein the decoding system comprises an MPEG decoding system.

Claim 34 (original): An MPEG decoding system for applying proper interpolation for reduced resolution motion compensation in a video data stream, wherein the decoding system comprises a motion compensation predictor for retrieving reduced resolution reference frame data areas through scaled down motion vectors, and wherein the motion compensation predictor is adapted to: evaluate the video data stream to determine whether the video data stream was encoded using

field motion compensation or frame motion compensation; apply field-based interpolation to the video data stream if the video data stream was encoded using field motion compensation; utilize a vertical component of a motion vector to attempt to determine a likely local nature of a reduced resolution reference frame data area in the video data stream; and apply frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local and nature of the reduce resolution reference frame data area if the video data stream was encoded using frame motion compensation.

Claim 35 (original): The MPEG decoding system of Claim 34, wherein the motion compensation predictor determines that the video data stream was encoded using frame motion compensation and that encoding determined for the motion compensation predictor to fetch the reduced resolution reference frame data area starting from a pixel position, wherein the motion compensation predictor is unable to reliably determine that the likely local nature of the reduced resolution reference frame data area comprises a stationary area, and wherein the motion compensation predictor applies frame-based interpolation to the reduced resection reference frame data area.

Claim 36 (original): The MPEG decoding system of Claim 34, wherein the motion compensation predictor determines that the video data stream was encoded using frame motion compensation and that encoding determined for the motion compensation predictor to fetch the reduced resolution reference frame data area staring from a non-pixel position, and wherein the motion compensation predicator determines that the likely local nature of the reduced resolution reference frame data area in the video data stream likely comprises a stationary area, and wherein the motion compensation predictor applies frame-based interpolation to the reduced resolution reference frame data area.

Claim 37 (original): The MPEG decoding system of Claim 34, wherein the motion compensation predicator determines that the video data stream was encoded using frame motion compensation and that encoding determined for the motion compensation predictor to fetch the reduced resolution reference frame data area starting from a pixel position, and wherein the motion compensation predictor is unable to reliably determine that the likely local nature of the

reduced resection reference frame data area comprises a stationary area, and wherein the motion compensation predictor applies field-based interpolation to the reduced resolution reference frame data area.

Claim 38 (original): The MPEG decoding system of Claim 34, wherein the motion compensation predictor determines that the local nature of the reduced resolution reference frame data area in the video data stream likely comprises a stationary area, and wherein the motion compensation predictor applies frame-based interpolation to the reduced resolution reference frame data area.

Claim 39 (currently amended): The MPEG decoding system of Claim 34, wherein the motion compensation predictor is ~~unable to reliably determine~~ that the local nature of the reduced resolution reference frame data area comprises a stationary area, and wherein the motion compensation predictor applies field-based interpolation to the reduced resolution reference frame data area.

Claim 40 (original): The MPEG decoding system of Claim 34, wherein the motion compensation predictor comprises a dynamic motion compensation predictor adapted to dynamically in real time utilize a vertical component of a motion vector to attempt to determine a local nature of a reduced resection reference frame data area in the video data stream.

Claim 41 (original): The MPEG decoding system of Claim 34, further comprising:
an inverse discrete cosine transfer device for providing reduced resolution blocks of pixel values for use with the reduced resolution reference frame data area in generating reduced resolution reference frames.

Claim 42 (original): The MPEG decoding system of Claim 34, further comprising:
          a memory device coupled to the motion compensation predictor, the memory device for storing reduced resolution reference frames.

Claim 43 (original): The MPEG decoding system of Claim 34, further comprising:

a down scaling device coupled to the motion compensation predictor, the down scaling device for providing the scaled down motion vectors for use by the motion compensation predictor in retrieving the reduced resolution reference frame data areas from reduced resolution reference frames.

Claim 44 (original): The MPEG decoding system of Claim 34, further comprising:

an adder coupled to the motion compensation predictor, the adder for generating reduced resection reference frames.

Claim 45 (original): The MPEG decoding system of Claim 34, wherein the motion compensation predictor comprises a dynamic motion compensation predictor adapted to dynamically real time apply frame-based interpolation or field-based interpolation to the reduced resolution reference frame data area according to the determined likely local nature of the reduced resolution reference frame data area if the video data stream was encoded using frame motion compensation.

Claim 46 (currently amended): The MPEG decoding system of Claim 34 46, further comprising:

an inverse discrete cosine transfer device for providing reduced resolution blocks of pixel values for use with the reduced resolution reference frame data area in generating reduced resolution referenced frames;

a memory device coupled to the dynamic motion compensation predictor, the memory device for storing the reduced resolution reference frames;

a down scaling device coupled to the dynamic motion compensation predictor, the down scaling device for providing the scaled down motion vectors for use by the dynamic motion compensation predictor in retrieving the reduced resolution reference frame data area from the reduced resolution reference frames stored in the memory device; and an adder coupled through a first input to the inverse discrete cosine transfer device, coupled through a second input to the dynamic motion compensation predictor, and coupled through an output to the memory device, the adder for generating the reduced resolution reference frames from a summation of the reduced resolution blocks of pixel values inputted from the inverse discrete cosine transfer

device and the reduced resolution reference frame data areas inputted from the dynamic motion compensation predictor.

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